

ABSTRACT Of THE DISCLOSURE

A thermal energy storage unit is provided for a conventional an air conditioning system having a compressor, a condensing unit, an expansion unit and an evaporator, all operative interconnected. The thermal energy storage unit is located exterior to a structure to be cooled and is connected solely to refrigerant lines running to and from the compressor without altering the existing expansion unit and evaporator unit located within the structure. The air conditioning system is operated through at least two distinct phases of operation, one phase of operation including the running of the compressor to supply refrigerant to the expansion unit and the evaporator unit to cool the indoor space inside the structure and another distinct phase of operation being the operation of the thermal energy storage unit to exactly simulate the running of the compressor without powering the compressor.